



EXPENSE TRACKER APPLICATION

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Abstract: This project proposes an expense tracker application designed to empower users to manage their finances effectively, Track daily expenses and create budgets, Automate saving for pre-defined goals, facilitating future investments. A key feature is the integration of Optical Character Recognition (OCR) technology. By automatically extracting data from scanned financial statements, the application streamlines the data entry process, saving users valuable time. The abstract highlights the limitations of manual data extraction, which can be time-consuming and prone to errors. OCR technology addresses these issues, offering faster and more accurate data capture. The application aims to help users overcome wasteful spending habits by promoting financial awareness and facilitating informed budgeting decisions.

Keywords: Personal finance, Budgeting, Money management, Savings tracker, Financial planning.

I. INTRODUCTION

1.1 PREAMBLE

Introducing Expense Tracker Application, the ultimate solution for simplifying your financial journey. With an intuitive interface, real-time tracking, and personalized budgeting features, Expense Tracker empowers you to take control of your expenses effortlessly. Categorize your spending, set budgets, and receive timely notifications to stay within your financial limits. Our commitment to data security ensures your financial information remains confidential. Join us in achieving financial success – download Expense Tracker today for a smarter, more secure future. Your pocket-sized financial companion is here to make every penny count.

1.2 PROBLEM DESCRIPTION

The Expense Tracker Application is a digital solution designed to help individuals and families manage their finances by tracking income and expenses. The application provides users with tools to categorize expenses, monitor spending habits, set budgets, and generate financial reports. The goal is to promote financial literacy and discipline by offering insights into spending patterns and helping users make informed financial decisions.

1.3 OBJECTIVE

- To keep track of daily expenses and budgeting, to save money for pre-defined expenses which will help planning on your future investments.
- The documents of financial statements arrive as scanned images. With the use of OCR it extracts data from the financial statement faster.

1.4 SCOPE

In short, this application will help its users to overcome the wastage of money. OCR or Optical Character Recognition is the tool used for data extraction. It works automatically This has already been discussed, financial documents contain vital documents. Extracting the financial statement manually covers up a couple of days to extract the files. In the case of automated document extraction, it extracts the file faster. OCR also works by making the information searchable. In the case of quality control, OCR lacks sometimes. It cannot recognize or read specific characters such as phone numbers, numerical, handwritten characters, signatures, etc. OCR finds difficulties in the case of layout and variations.

1.5 OUTLINE OF THE THESIS

In today's busy and expensive life, we are in a big hurry to make money. But at the end of the day we said goodbye. Because we unknowingly spend money on small things and unwanted things. So we came up with the idea of tracking our income. Daily Expense Tracker (DET) aims to help everyone who plans to know their expenses and save on them. DTE is a website where a user can add expenses daily and his spreadsheet will be generated and at the end a user expense report will be generated. The user can choose a period for calculating his expenses.

Therefore, it forces them to monitor their spending. Users can also enter receivables to receive. Along with the expense name, users can also add an image attachment of their bill.

It will prove useful for people who are frustrated with their daily budget management, irritated by the amount of expenses and want to manage money and keep a record of their daily expenses, which can be useful to change their way of spending money.

II. SYSTEM SPECIFICATION

2.1 HARDWARE SPECIFICATION:

- Processor : Dual core processor 2.6.0 GHZ
- RAM : 4GB
- Hard disk : 160 GB
- Compact Disk : 650 Mb
- Keyboard : Standard keyboard
- Monitor : 15 inch color monitor

2.2 SOFTWARE SPECIFICATION:

- Operating system : Windows OS
- Front End : Python
- Back End : MySQL SERVER
- IDLE : Pycharm

III. SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

As financial statements are the documents needed to be extracted carefully. Errors cause a vital problem, which even cannot be handled at a certain time. So, it is difficult to extract data from financial statements manually. A certain mistake may cause big trouble. Now, these troubles can be avoided by using the automated data extraction tool, which extracts documents efficiently, causes no errors. In the case of manual document extraction, correction of errors takes multiple days. Automated data extraction will also be of major use. Software such as Doc extractor follows the same properties in extracting data.

Disadvantages

- It also minimizes the chances of causing errors and extracts data from financial documents efficiently.
- In the existing system user can only add the expenses by typing it manually.
- Because generating reports takes time.

3.2 PROPOSED SYSTEM

We propose an application to limit manual calculations. This app allows users to keep a digital automated journal. Each user will be required to register with the system at the time of registration, the user will be provided with an id which will be used to maintain a record of each unique user. An Expense Tracker app that will track a user's income and expenses on a daily basis. The best organizations have a way to track and manage these reimbursements.

Advantages

- Effective tracking and reporting of expenses to avoid conflicts.
- To develop a systematic system which is used to improve users' financial
- Management and forecast future budget planning.
- To test and evaluate the reliability of the system to generate monthly report and
- Forecast budget for the users

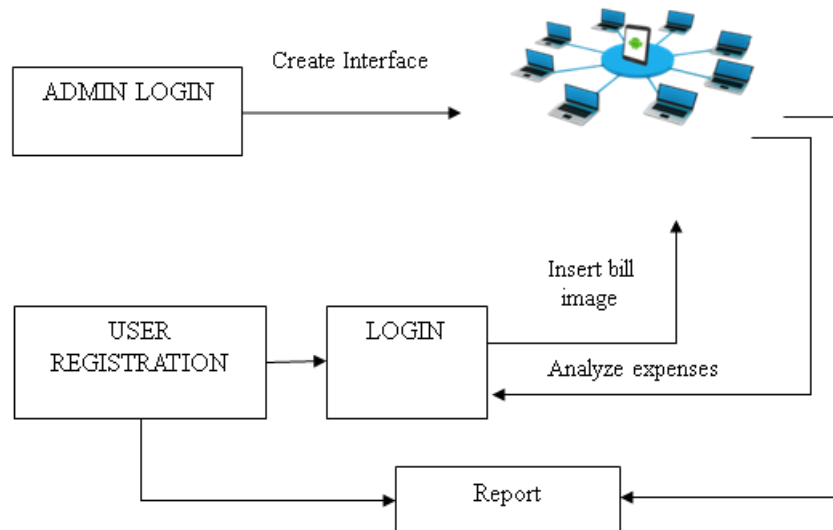
IV. PROJECT DESCRIPTION**4.1 BLOCK DIAGRAM**

FIG 1. Block Diagram

4.2 PROJECT EXPLANATION**Data Entry:**

- Users can enter expense details manually.
- The app offers OCR functionality to automatically extract data from scanned receipts or financial statements.
- OCR parses the scanned image and extracts relevant information like amount, date, and merchant name.

Expense Categorization:

- Users can categorize expenses (e.g., groceries, rent, entertainment).
- The app might suggest categories based on extracted data (if OCR is used).

Budgeting:

- Users can set budgets for different categories or overall spending.
- The app tracks expenses against set budgets and provides alerts for overspending.

Goal Setting:

- Users can define saving goals for future investments or other purposes.
- The app calculates progress towards goals and offers automated transfers to designated savings accounts (requires bank integration).

Reporting and Analysis:

- The app generates reports on spending patterns over time (daily, weekly, monthly).
- Users can visualize data using charts and graphs to gain insights into spending habits.

4.3 MODULE DESCRIPTION**Admin login :**

In this module, the admin can login in the system using username and password.

**User Register:**

There is registration form available where new user can create their account by providing required information to the system. The registration form details are like name, email, gender, mobile number, address, and etc. These details are stored in the database. And then can getting to the username and password in the system.

Login :

In this module, the admin can login in the system using username and password.

Add expense with bill image:

In this module the user can upload the bill image into this application.

Analyse bill:

After upload the bill, the system analyse the high expensive product.

Report:

In this module, used to generate the expenses report.

V. IMPLEMENTATION

Here's a high-level overview of the implementation process:

- **Front-end Development:** Design the user interface for data entry, categorization, budgeting, and reporting. This could involve using frameworks like React Native for a mobile app or a web framework like Django for a web application.
- **Back-end Development:** Develop the server-side logic to handle data storage, retrieval, calculations, and potentially OCR integration using libraries like Tesseract or cloud services like Google Cloud Vision API.
- **Database Design:** Design a database schema to store user information, expense data, budget categories, and goal details securely.
- **OCR Integration (Optional):** If using OCR, integrate the chosen OCR library into the app to enable automatic data extraction from scanned documents. Ensure proper error handling for potential OCR inaccuracies.
- **Testing and Deployment:** Conduct thorough testing to ensure app functionality, security, and performance. Deploy the app on relevant platforms (e.g., App Store, Google Play Store, or web hosting).

VI. RESULT ANALYSIS

Analyze user spending patterns: Identify areas of overspending and potential for saving. Track progress towards financial goals: Monitor if users are achieving their savings targets. Evaluate OCR accuracy: Assess how well OCR extracts data from scanned documents. User feedback: gather user feedback on app features, usability, and suggestions for improvement.

VII. CONCLUSION

In conclusion, the development of the Expense Tracker Application represents a significant step forward in addressing the pervasive issue of uncontrolled and untracked spending that many individuals face in today's fast-paced and financially demanding world. This application not only provides a practical tool for daily financial management but also contributes to enhancing financial literacy and discipline among its users. The Expense Tracker Application has the potential to significantly influence how users manage their finances. By providing a comprehensive tool for tracking expenses and setting budgets, the application empowers users to make informed financial decisions. This, in turn, can lead to more responsible spending, better savings habits, and overall improved financial health. The journey of developing the Expense Tracker Application has underscored the importance of providing practical and user-friendly financial management tools. By addressing a common pain point and offering a solution that is both effective and accessible, this application can play a crucial role in helping individuals achieve better financial stability and peace of mind. The success of the Expense Tracker Application is not just in its technical implementation but in its potential to make a real difference in the lives of its users. As financial management continues to evolve with technology, tools like this application will become increasingly vital in promoting financial well-being and resilience.

**VIII. FUTURE ENHANCEMENT**

Here are some future enhancements you can consider for your expense tracker app:

Advanced Features:

- **Automatic Bank Account Integration:** Allow users to connect their bank accounts securely for automatic transaction import, eliminating manual data entry altogether.
 - **Smart Budgeting:** Utilize machine learning to analyze spending habits and suggest personalized budgets that adapt to user behavior.
 - **Bill Pay Functionality:** Integrate bill pay services to automate bill payments directly within the app.
 - **Investment Tracking:** Allow users to track investment performance and connect to investment accounts for a holistic financial picture.
 - **Subscription Management:** Track and manage recurring subscriptions with automatic notifications for renewal.
- AI-powered Insights:**
- **Predictive Analytics:** Utilize AI to predict future spending patterns and potential areas for cost savings.
 - **Financial Goal Optimization:** Leverage AI to suggest optimal saving strategies to achieve financial goals faster.
 - **Personalized Recommendations:** Recommend personalized financial products or services based on user data and spending habits.

Enhanced User Experience:

- **Receipt Management:** Implement a digital wallet feature to store scanned receipts or photos for easy access and record-keeping.
- **Social Integration:** Allow users to connect with friends and family for shared budgeting challenges or expense splitting.
- **Gamification:** Introduce gamification elements like badges or rewards to motivate users to stick to their budgets and financial goals.
- **Customizable Dashboards:** Allow users to personalize their dashboards with the financial metrics they find most important.
- **Voice Assistant Integration:** Integrate with voice assistants like Siri or Google Assistant for hands-free expense tracking and budgeting.

Security and Privacy:

- **Multi-factor Authentication:** Implement multi-factor authentication for added security when accessing the app and financial data.
- **Data Encryption:** Encrypt all user data at rest and in transit to ensure maximum security.
- **Privacy Controls:** Allow users to control their data privacy settings and choose what information they share within the app.

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